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ABSTRACTS OF THE 2013 PARIS-ECHO CONGRESS

Poster session, Friday morning, 14 June**Session n° 5 – Cardiomyopathies and heart failure**

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Usefulness and reliability of pocket ultrasound in assessing cardiac function in patients hospitalized for heart failure in a cardiology departmentB. Kurtz, R. Breil, M.-C. Bories, C. Vallet, M. Jan, H. Eltchaninoff
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Objective.— The median length of hospitalization for heart failure (HF) in France is 13 days and admissions are the main cost of this common and severe disease. The development of ultra-portable ultrasound equipment (POCKET) enables early assessment of cardiac function at the bedside. We evaluated the use of this new tool and its impact on the length of hospital stay in patients with HF.

Patients and methods.— All consecutive patients admitted for HF in the cardiology department of the Rouen university hospital between July and August 2012 were enrolled in the study and randomized into two groups (control and POCKET). They all had baseline cardiac function assessment in the days following their admission using standard echocardiography. The POCKET group had early echocardiogram performed using the ultra-portable device at bedside within 48 hours after admission. We evaluated the length of hospitalization in both groups as well as reliability of ultrasonography using the ultra-portable device as compared to usual echocardiography.

Results.— Sixty-two patients were enrolled in our study, 32 patients in the POCKET group and 30 in the control group. There was a trend toward length of hospitalization reduction in the POCKET group compared to the control group (6.8 ± 5.2 days vs. 8.4 ± 5.4 days, $P=0.09$). However, we have demonstrated the feasibility and reliability of the use of ultra-portable echocardiograph by two operators, a junior and a senior, as compared to a reference standard echocardiogram (ER), over a high-end device, carried out by a trained operator. Correlations between left ventricular ejection fractions estimated (junior/senior: $r^2=0.76$; junior/ER: $r^2=0.75$, senior/ER: $r^2=0.79$) as well as concordance of other echocardiographic parameters were satisfactory.

Conclusions.— Ultra-portable ultrasound allows early and reliable evaluation of cardiac function by a junior MD in patients hospitalized for heart failure, and its use tends to reduce the length of hospitalization.

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Cardiac remodeling in tennis players participating in veteran French Roland Garros championshipN. Mansencal^a, D.-M. Marcadet^b, B. Montalvan^b, O. Dubourg^a
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Background.— Cardiac remodeling may occur in case of intensive training. However, few are known concerning the long-term cardiac effect of sport in veterans. The aim of this study was to analyze the cardiac changes due to tennis practice in veterans.

Methods.— The study population consisted in 535 subjects (men and women): 435 veteran tennis players (≥ 35 years) participating in the 2007–2011 veteran French championships in Roland Garros stadium and 100 healthy patients included in an age- and gender-matched control group. All subjects underwent a physical examination, a 12-lead electrocardiogram and a complete transthoracic echocardiography. Analysis was performed according to the decade of life and to the level of tennis training among tennis players (intensive [> 10 hours/week] versus moderate training [T+ versus T−]).

Results.— Mean age was 57 ± 12.5 years (range: 35–80 years). Echocardiography detected cardiac abnormalities in 3% of patients. Left ventricular and atrial parameters were significantly greater whatever the decade of life in tennis players as compared to the control group ($P < 0.001$), in men than in women ($P < 0.001$) and in male and female subjects T+ as compared to subjects T− and to the control group ($P < 0.005$). Left ventricular hypertrophy was found in 40% of men and 19% of women. Patterns of mitral inflow and pulmonary vein inflow were significantly different according to the decade of life ($P < 0.0001$), but no difference was observed between subjects T+, T− and control group. Echocardiographic parameters remained in physiological ranges whatever the decade of life and the intensity of training.

Conclusions.— In veteran tennis players, echocardiography is helpful for detecting cardiac abnormalities in 4% of subjects. Long-term practice of tennis leads to cardiac remodeling, particularly in T+ veteran tennis players. However, cardiac chamber size, systolic and diastolic function remains in physiological ranges whatever the decade of life and the intensity of training, suggesting that cardiac remodeling in veterans remain a physiologic adaptation.

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Impact of segmental hypertrophy on global and regional left ventricular deformation in